

**Detection of the harmful algal species *Pseudo-nitzschia* and associated particulate and dissolved domoic acid with concurrent water column quality and nutrient concentrations obtained from a moored aut**

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As members of the Olympic Region Harmful Algal Bloom (ORHAB) partnership we are tasked with monitoring for harmful algal species and assessing environmental conditions when these species occur in Willapa Bay; a coastal estuary in Southwest Washington with a substantial shellfish industry. Seasonal data obtained from a moored automated water sampler during summer 2002 through fall 2004 indicate recurrent presence of toxic *Pseudo-nitzschia* species, the diatom species responsible for production of the neurotoxin domoic acid (DA). We present *Pseudo-nitzschia* species cell densities and particulate and dissolved DA levels correlated with basic oceanographic data (salinity, temperature, and fluorescence), as well as nutrient ( $\text{NO}_3^-$ ,  $\text{NO}_2^-$ ,  $\text{NH}_4^+$ ,  $\text{PO}_4^{2-}$ , and  $\text{Si(OH)}_4$ ) concentrations obtained from preserved samples collected from the autosampler. Preliminary analyses describe an oceanic source for these species, advected into the bay by tidal and wind-driven forces. These advective forces combined with our results indicate continued need for HAB monitoring in coastal regions and within estuaries, including Puget Sound, which had the first localized shellfish closure in 2003 due to DA.